

SEQUENCE LISTING

<110> Khan, Nisar A.  
Benner, Robert

<120> Gene regulator

<130> 2183-5222US

<140> 10/029,206

<141> 2001-12-21

<150> 09/821,380

<151> 2001-03-29

<160> 175

<170> PatentIn Ver. 2.1

<210> 1

<211> 4

<212> PRT

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: oligopeptide

<400> 1

Leu Gln Gly Val

1

<210> 2

<211> 4

<212> PRT

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: oligopeptide

<400> 2

Ala Gln Gly Val

1

<210> 3

<211> 6

<212> PRT

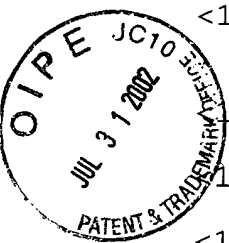
<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: oligopeptide

<400> 3

Val Leu Pro Ala Leu Pro



# SEQUENCE LISTING

<110> Khan, Nisar A.  
Benner, Robert

<120> Gene regulator

<130> 2183-5222US

<140> 10/029,206

<141> 2001-12-21

<150> 09/821,380

<151> 2001-03-29

<160> 175

<170> PatentIn Ver. 2.1

<210> 1

<211> 4

<212> PRT

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: oligopeptide

<400> 1

Leu Gln Gly Val

1

<210> 2

<211> 4

<212> PRT

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: oligopeptide

<400> 2

Ala Gln Gly Val

1

<210> 3

<211> 6

<212> PRT

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: oligopeptide

<400> 3  
Val Leu Pro Ala Leu Pro  
1 5

<210> 4  
<211> 16  
<212> PRT  
<213> Artificial Sequence

<220>  
<223> Description of Artificial Sequence: peptide

<400> 4  
Met Leu Ala Arg Arg Lys Pro Val Leu Pro Ala Leu Thr Ile Asn Pro  
1 5 10 15

<210> 5  
<211> 7  
<212> PRT  
<213> Artificial Sequence

<220>  
<223> Description of Artificial Sequence: peptide

<400> 5  
Met Leu Ala Arg Arg Lys Pro  
1 5

<210> 6  
<211> 4  
<212> PRT  
<213> Artificial Sequence

<220>  
<223> Description of Artificial Sequence: peptide

<400> 6  
Met Leu Ala Arg  
1

<210> 7  
<211> 6  
<212> PRT  
<213> Artificial Sequence

<220>  
<223> Description of Artificial Sequence: peptide

<400> 7  
Val Leu Pro Ala Leu Thr  
1 5

<210> 8  
<211> 5  
<212> PRT  
<213> Artificial Sequence

<220>  
<223> Description of Artificial Sequence:  
pdb/1QMH/1QMH-A

<400> 8  
Val Leu Pro Ala Leu  
1 5

<210> 9  
<211> 4  
<212> PRT  
<213> Artificial Sequence

<220>  
<223> Description of Artificial Sequence:  
pdb/4NOS/4NOS-A

<400> 9  
Phe Pro Gly Cys  
1

<210> 10  
<211> 4  
<212> PRT  
<213> Artificial Sequence

<220>  
<223> Description of Artificial Sequence: Hs.297775.1

<400> 10  
Pro Gly Cys Pro  
1

<210> 11  
<211> 7  
<212> PRT  
<213> Artificial Sequence

<220>  
<223> Description of Artificial Sequence:  
swiss/P81272/NS2B HUMAN

<400> 11  
Gly Val Leu Pro Ala Val Pro  
1 5

<210> 12  
<211> 6  
<212> PRT  
<213> Artificial Sequence

<220>  
<223> Description of Artificial Sequence:  
swiss/P81272/NS2B HUMAN

<400> 12  
Val Leu Pro Ala Val Pro  
1 5

<210> 13  
<211> 4  
<212> PRT  
<213> Artificial Sequence

<220>  
<223> Description of Artificial Sequence:  
pdb/1FZV/1FZV-A

<400> 13  
Pro Ala Val Pro  
1

<210> 14  
<211> 9  
<212> PRT  
<213> Artificial Sequence

<220>  
<223> Description of Artificial Sequence: oligopeptide

<400> 14  
Leu Gln Gly Val Val Pro Arg Gly Val  
1 5

<210> 15  
<211> 4  
<212> PRT  
<213> Artificial Sequence

<220>  
<223> Description of Artificial Sequence: oligopeptide

<400> 15  
Gly Val Val Pro  
1

<210> 16

<211> 5  
<212> PRT  
<213> Artificial Sequence

<220>  
<223> Description of Artificial Sequence: oligopeptide

<400> 16  
Val Pro Arg Gly Val  
1 5

<210> 17  
<211> 4  
<212> PRT  
<213> Artificial Sequence

<220>  
<223> Description of Artificial Sequence: oligopeptide

<400> 17  
Pro Arg Gly Val  
1

<210> 18  
<211> 5  
<212> PRT  
<213> Artificial Sequence

<220>  
<223> Description of Artificial Sequence: polypeptide

<400> 18  
Met Ala Pro Lys Lys  
1

<210> 19  
<211> 4  
<212> PRT  
<213> Artificial Sequence

<220>  
<223> Description of Artificial Sequence: oligopeptide

<400> 19  
Leu Gln Gly Ala  
1

<210> 20  
<211> 10

<212> PRT  
<213> Artificial Sequence

<220>  
<223> Description of Artificial Sequence: oligopeptide

<400> 20  
Val Leu Pro Ala Leu Pro Gln Val Val Cys  
1 5 10

<210> 21  
<211> 6  
<212> PRT  
<213> Artificial Sequence

<220>  
<223> Description of Artificial Sequence: oligopeptide

<400> 21  
Ala Leu Pro Ala Leu Pro  
1 5

<210> 22  
<211> 6  
<212> PRT  
<213> Artificial Sequence

<220>  
<223> Description of Artificial Sequence: oligopeptide

<400> 22  
Val Ala Pro Ala Leu Pro  
1 5

<210> 23  
<211> 7  
<212> PRT  
<213> Artificial Sequence

<220>  
<223> Description of Artificial Sequence: oligopeptide

<400> 23  
Ala Leu Pro Ala Leu Pro Gln  
1 5

<210> 24  
<211> 7  
<212> PRT  
<213> Artificial Sequence

<220>  
<223> Description of Artificial Sequence: oligopeptide

<400> 24  
Val Leu Pro Ala Ala Pro Gln  
1 5

<210> 25  
<211> 7  
<212> PRT  
<213> Artificial Sequence

<220>  
<223> Description of Artificial Sequence: oligopeptide

<400> 25  
Val Leu Pro Ala Leu Ala Gln  
1 5

<210> 26  
<211> 4  
<212> PRT  
<213> Artificial Sequence

<220>  
<223> Description of Artificial Sequence: oligopeptide

<400> 26  
Leu Ala Gly Val  
1

<210> 27  
<211> 6  
<212> PRT  
<213> Artificial Sequence

<220>  
<223> Description of Artificial Sequence: oligopeptide

<400> 27  
Val Leu Ala Ala Leu Pro  
1 5

<210> 28  
<211> 6  
<212> PRT  
<213> Artificial Sequence

<220>  
<223> Description of Artificial Sequence: oligopeptide



<400> 28

Val Leu Pro Ala Leu Ala  
1 5

<210> 29

<211> 7

<212> PRT

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: oligopeptide

<400> 29

Val Leu Pro Ala Leu Pro Gln  
1 5

<210> 30

<211> 7

<212> PRT

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: oligopeptide

<400> 30

Val Leu Ala Ala Leu Pro Gln  
1 5

<210> 31

<211> 7

<212> PRT

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: oligopeptide

<400> 31

Val Leu Pro Ala Leu Pro Ala  
1 5

<210> 32

<211> 7

<212> PRT

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: oligopeptide

<400> 32

Gly Val Leu Pro Ala Leu Pro

1

5

<210> 33  
<211> 8  
<212> PRT  
<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: oligopeptide

<400> 33

Gly Val Leu Pro Ala Leu Pro Gln  
1 5

<210> 34  
<211> 13  
<212> PRT  
<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: oligopeptide

<400> 34

Leu Gln Gly Val Leu Pro Ala Leu Pro Gln Val Val Cys  
1 5 10

<210> 35  
<211> 38  
<212> PRT  
<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: oligopeptide

<400> 35

Val Val Cys Asn Tyr Arg Asp Val Arg Phe Glu Ser Ile Arg Leu Pro  
1 5 10 15

Gly Cys Pro Arg Gly Val Asn Pro Val Val Ser Tyr Ala Val Ala Leu  
20 25 30

Ser Cys Gln Cys Ala Leu  
35

<210> 36  
<211> 15  
<212> PRT  
<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: oligopeptide

<400> 36

Arg Pro Arg Cys Arg Pro Ile Asn Ala Thr Leu Ala Val Glu Lys  
1 5 10 15

<210> 37

<211> 20

<212> PRT

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: oligopeptide

<400> 37

Glu Gly Cys Pro Val Cys Ile Thr Val Asn Thr Thr Ile Cys Ala Gly  
1 5 10 15

Tyr Cys Pro Thr  
20

<210> 38

<211> 18

<212> PRT

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: oligopeptide

<400> 38

Ser Lys Ala Pro Pro Pro Ser Leu Pro Ser Pro Ser Arg Leu Pro Gly  
1 5 10 15

Pro Ser

<210> 39

<211> 16

<212> PRT

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: oligopeptide

<400> 39

Ser Ile Arg Leu Pro Gly Cys Pro Arg Gly Val Asn Pro Val Val Ser  
1 5 10 15

<210> 40

<211> 13

<212> PRT

<213> Artificial Sequence

<220>  
<223> Description of Artificial Sequence: oligopeptide

<400> 40  
Leu Pro Gly Cys Pro Arg Gly Val Asn Pro Val Val Ser  
1 5 10

<210> 41  
<211> 4  
<212> PRT  
<213> Artificial Sequence

<220>  
<223> Description of Artificial Sequence: oligopeptide

<400> 41  
Leu Pro Gly Cys  
1

<210> 42  
<211> 4  
<212> PRT  
<213> Artificial Sequence

<220>  
<223> Description of Artificial Sequence: oligopeptide

<400> 42  
Met Thr Arg Val  
1

<210> 43  
<211> 4  
<212> PRT  
<213> Artificial Sequence

<220>  
<223> Description of Artificial Sequence: oligopeptide

<400> 43  
Gln Val Val Cys  
1

<210> 44  
<211> 17  
<212> PRT  
<213> Artificial Sequence

<220>  
<223> Description of Artificial Sequence: peptide  
signalling molecule

<400> 44

Met Thr Arg Val Leu Gln Gly Val Leu Pro Ala Leu Pro Gln Val Val  
1 5 10 15

Cys

<210> 45

<211> 35

<212> PRT

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: peptide  
signalling molecule

<400> 45

Arg Pro Arg Cys Arg Pro Ile Asn Ala Thr Leu Ala Val Glu Lys Glu  
1 5 10 15

Gly Cys Pro Val Cys Ile Thr Val Asn Thr Thr Ile Cys Ala Gly Tyr  
20 25 30

Cys Pro Thr  
35

<210> 46

<211> 21

<212> PRT

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: peptide  
signalling molecule

<400> 46

Cys Ala Leu Cys Arg Arg Ser Thr Thr Asp Cys Gly Gly Pro Lys Asp  
1 5 10 15

His Pro Leu Thr Cys  
20

<210> 47

<211> 18

<212> PRT

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: peptide  
signalling molecule

<400> 47

Cys Arg Arg Ser Thr Thr Asp Cys Gly Gly Pro Lys Asp His Pro Leu  
 1 5 10 15

Thr Cys

<210> 48  
 <211> 37  
 <212> PRT  
 <213> Artificial Sequence

<220>  
 <223> Description of Artificial Sequence: peptide  
 signalling molecule

<400> 48  
 Thr Cys Asp Asp Pro Arg Phe Gln Asp Ser Ser Ser Ser Lys Ala Pro  
 1 5 10 15

Pro Pro Ser Leu Pro Ser Pro Ser Arg Leu Pro Gly Pro Ser Asp Thr  
 20 25 30

Pro Ile Leu Pro Gln  
 35

<210> 49  
 <211> 10  
 <212> PRT  
 <213> Artificial Sequence

<220>  
 <223> Description of Artificial Sequence: peptide  
 signalling molecule

<400> 49  
 Leu Gln Gly Val Leu Pro Ala Leu Pro Gln  
 1 5 10

<210> 50  
 <211> 10  
 <212> PRT  
 <213> Artificial Sequence

<220>  
 <223> Description of Artificial Sequence: NMPF peptide

<400> 50  
 Cys Pro Arg Gly Val Asn Pro Val Val Ser  
 1 5 10

<210> 51

<211> 25  
<212> DNA  
<213> Artificial Sequence

<220>  
<223> Description of Artificial Sequence: probe to  
represent the NF-kappaB binding sequence

<400> 51  
agctcagagg gggactttcc gagag 25

<210> 52  
<211> 4  
<212> PRT  
<213> Artificial Sequence

<220>  
<223> Description of Artificial Sequence: peptide LQAV  
showed smaller infarcted area

<400> 52  
Leu Gln Ala Val  
1

<210> 53  
<211> 5  
<212> PRT  
<213> Artificial Sequence

<220>  
<223> Description of Artificial Sequence:  
pdb/1DE7/1DE7-A

<400> 53  
Leu Gln Gly Val Val  
1 5

<210> 54  
<211> 6  
<212> PRT  
<213> Artificial Sequence

<220>  
<223> Description of Artificial Sequence:  
pdb/1DE7/1DE7-A

<400> 54  
Leu Gln Gly Val Val Pro  
1 5

<210> 55

<211> 5  
<212> PRT  
<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence:  
pdb/1DL6/1DL6-A

<400> 55

Leu Asp Ala Leu Pro  
1 5

<210> 56

<211> 4

<212> PRT

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence:  
pdb/1QMH/1QMH-A

<400> 56

Leu Gln Thr Val  
1

<210> 57

<211> 10

<212> PRT

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence:  
pdb/1QMH/1QMH-A

<400> 57

Leu Val Leu Gln Thr Val Leu Pro Ala Leu  
1 5 10

<210> 58

<211> 4

<212> PRT

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: pdb/1LYP/1LYP

<400> 58

Ile Gln Gly Leu  
1

<210> 59



<211> 4  
<212> PRT  
<213> Artificial Sequence

<220>  
<223> Description of Artificial Sequence: pdb/1LYP/1LYP

<400> 59  
Leu Pro Lys Leu  
1

<210> 60  
<211> 5  
<212> PRT  
<213> Artificial Sequence

<220>  
<223> Description of Artificial Sequence: pdb/1LYP/1LYP

<400> 60  
Leu Leu Pro Lys Leu  
1 5

<210> 61  
<211> 4  
<212> PRT  
<213> Artificial Sequence

<220>  
<223> Description of Artificial Sequence:  
pdb/1B90/1B90-A

<400> 61  
Leu Pro Glu Leu  
1

<210> 62  
<211> 4  
<212> PRT  
<213> Artificial Sequence

<220>  
<223> Description of Artificial Sequence:  
pdb/1GLU/1GLU-A

<400> 62  
Pro Ala Arg Pro  
1

<210> 63

<211> 4  
<212> PRT  
<213> Artificial Sequence

<220>  
<223> Description of Artificial Sequence:  
pdb/2KIN/2KIN-B

<400> 63  
Met Thr Arg Ile  
1

<210> 64  
<211> 4  
<212> PRT  
<213> Artificial Sequence

<220>  
<223> Description of Artificial Sequence:  
pdb/1SMP/1SMP-I

<400> 64  
Leu Gln Lys Leu  
1

<210> 65  
<211> 5  
<212> PRT  
<213> Artificial Sequence

<220>  
<223> Description of Artificial Sequence:  
pdb/1SMP/1SMP-I

<400> 65  
Leu Gln Lys Leu Leu  
1 5

<210> 66  
<211> 4  
<212> PRT  
<213> Artificial Sequence

<220>  
<223> Description of Artificial Sequence:  
pdb/1SMP/1SMP-I

<400> 66  
Pro Glu Ala Pro  
1

<210> 67  
<211> 9  
<212> PRT  
<213> Artificial Sequence

<220>  
<223> Description of Artificial Sequence:  
pdb/1SMP/1SMP-I

<400> 67  
Leu Gln Lys Leu Leu Pro Glu Ala Pro  
1 5

<210> 68  
<211> 4  
<212> PRT  
<213> Artificial Sequence

<220>  
<223> Description of Artificial Sequence: pdb/1ES/1ES7-B

<400> 68  
Pro Thr Leu Pro  
1

<210> 69  
<211> 5  
<212> PRT  
<213> Artificial Sequence

<220>  
<223> Description of Artificial Sequence: pdb/1ES/1ES7-B

<400> 69  
Leu Gln Pro Thr Leu  
1 5

<210> 70  
<211> 4  
<212> PRT  
<213> Artificial Sequence

<220>  
<223> Description of Artificial Sequence:  
pdb/1BHX/1BHX-F

<400> 70  
Leu Gln Val Val  
1

<210> 71  
<211> 4  
<212> PRT  
<213> Artificial Sequence

<220>  
<223> Description of Artificial Sequence:  
pdb/1VCB/1VCB-A

<400> 71  
Pro Glu Leu Pro  
1

<210> 72  
<211> 4  
<212> PRT  
<213> Artificial Sequence

<220>  
<223> Description of Artificial Sequence:  
pdb/1CQK/1CQK-A

<400> 72  
Pro Ala Ala Pro  
1

<210> 73  
<211> 5  
<212> PRT  
<213> Artificial Sequence

<220>  
<223> Description of Artificial Sequence:  
pdb/1CQK/1CQK-A

<400> 73  
Pro Ala Ala Pro Gln  
1 5

<210> 74  
<211> 6  
<212> PRT  
<213> Artificial Sequence

<220>  
<223> Description of Artificial Sequence:  
pdb/1CQK/1CQK-A

<400> 74  
Pro Ala Ala Pro Gln Val  
1 5

<210> 75  
<211> 4  
<212> PRT  
<213> Artificial Sequence

<220>  
<223> Description of Artificial Sequence: pdb/1BFB/1BFB

<400> 75  
Leu Pro Ala Leu  
1

<210> 76  
<211> 4  
<212> PRT  
<213> Artificial Sequence

<220>  
<223> Description of Artificial Sequence: pdb/1BFB/1BFB

<400> 76  
Pro Ala Leu Pro  
1

<210> 77  
<211> 5  
<212> PRT  
<213> Artificial Sequence

<220>  
<223> Description of Artificial Sequence: pdb/1BFB/1BFB

<400> 77  
Pro Ala Leu Pro Glu  
1 5

<210> 78  
<211> 5  
<212> PRT  
<213> Artificial Sequence

<220>  
<223> Description of Artificial Sequence:  
pdb/1R2A/1R2A-A

<400> 78  
Leu Thr Glu Leu Leu  
1 5

<210> 79  
<211> 10

<212> PRT  
<213> Artificial Sequence  
  
<220>  
<223> Description of Artificial Sequence: C3G peptide

<400> 79  
Pro Pro Pro Ala Leu Pro Pro Lys Lys Arg  
1 5 10

<210> 80  
<211> 4  
<212> PRT  
<213> Artificial Sequence

<220>  
<223> Description of Artificial Sequence:  
pdb/1RLQ/1RLQ-R

<400> 80  
Leu Pro Pro Leu  
1

<210> 81  
<211> 4  
<212> PRT  
<213> Artificial Sequence

<220>  
<223> Description of Artificial Sequence:  
pdb/1RLQ/1RLQ-R; swissnew/P01229/LSHB HUMAN

<400> 81  
Pro Pro Leu Pro  
1

<210> 82  
<211> 4  
<212> PRT  
<213> Artificial Sequence

<220>  
<223> Description of Artificial Sequence: pdb/1TNT/1TNT

<400> 82  
Leu Pro Gly Leu  
1

<210> 83  
<211> 4

<212> PRT  
<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence:  
pdb/1GJS/1GJS-A

<400> 83  
Leu Ala Ala Leu  
1

<210> 84  
<211> 5  
<212> PRT  
<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence:  
pdb/1GJS/1GJS-A

<400> 84  
Leu Ala Ala Leu Pro  
1 5

<210> 85  
<211> 4  
<212> PRT  
<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence:  
pdb/1GBR/1GBR-B

<400> 85  
Pro Lys Leu Pro  
1

<210> 86  
<211> 6  
<212> PRT  
<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence:  
pdb/1A78/1A78-A

<400> 86  
Val Leu Pro Ser Ile Pro

1

5

<210> 87

<211> 6

<212> PRT

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence:

pdb/1FZV/1FZV-A

<400> 87

Met Leu Pro Ala Val Pro

1

5

<210> 88

<211> 4

<212> PRT

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: pdb/1JLI/1JLI

<400> 88

Leu Pro Cys Leu

1

<210> 89

<211> 4

<212> PRT

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: pdb/1JLI/1JLI

<400> 89

Pro Cys Leu Pro

1

<210> 90

<211> 5

<212> PRT

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence:

pdb/1HSS/1HSS-A



<400> 90  
Val Pro Ala Leu Pro  
1 5

<210> 91  
<211> 4  
<212> PRT  
<213> Artificial Sequence

<220>  
<223> Description of Artificial Sequence:  
pdb/1PRX/1PRX-A

<400> 91  
Pro Thr Ile Pro  
1

<210> 92  
<211> 6  
<212> PRT  
<213> Artificial Sequence

<220>  
<223> Description of Artificial Sequence:  
pdb/1PRX/1PRX-A

<400> 92  
Val Leu Pro Thr Ile Pro  
1 5

<210> 93  
<211> 6  
<212> PRT  
<213> Artificial Sequence

<220>  
<223> Description of Artificial Sequence: pdb/1RCY/1RCY

<400> 93  
Val Leu Pro Gly Phe Pro  
1 5

<210> 94  
<211> 4  
<212> PRT  
<213> Artificial Sequence

<220>  
<223> Description of Artificial Sequence: pdb/1A3Z/1A3Z

<400> 94

Pro Gly Phe Pro  
1

<210> 95  
<211> 5  
<212> PRT  
<213> Artificial Sequence

<220>  
<223> Description of Artificial Sequence:  
pdb/1GER/1GER-A

<400> 95  
Leu Pro Ala Leu Pro  
1 5

<210> 96  
<211> 5  
<212> PRT  
<213> Artificial Sequence

<220>  
<223> Description of Artificial Sequence: pdb/1BBS/1BBS

<400> 96  
Met Pro Ala Leu Pro  
1 5

<210> 97  
<211> 17  
<212> PRT  
<213> Artificial Sequence

<220>  
<223> Description of Artificial Sequence: AI188872

<220>  
<221> MISC  
<222> (2)  
<223> The 'Xaa' at position indicates an unknown amino acid

<400> 97  
Met Xaa Arg Val Leu Gln Gly Val Leu Pro Ala Leu Pro Gln Val Val  
1 5 10 15

Cys

<210> 98  
<211> 4  
<212> PRT

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: AI188872

<220>

<221> MISC

<222> (2)

<223> The 'Xaa' at position 2 indicates an unknown amino acid

<400> 98

Met Xaa Arg Val  
1

<210> 99

<211> 17

<212> PRT

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: AI126906

<400> 99

Ile Thr Arg Val Met Gln Gly Val Ile Pro Ala Leu Pro Gln Val Val  
1 5 10 15

Cys

<210> 100

<211> 16

<212> PRT

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: AI221581

<400> 100

Met Thr Arg Val Leu Gln Val Val Leu Leu Ala Leu Pro Gln Leu Val  
1 5 10 15

<210> 101

<211> 14

<212> PRT

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: Mm.42246.3

<400> 101

Lys Val Ile Gln Gly Ser Leu Asp Ser Leu Pro Gln Ala Val

1

5

10

&lt;210&gt; 102

&lt;211&gt; 4

&lt;212&gt; PRT

&lt;213&gt; Artificial Sequence

&lt;220&gt;

&lt;223&gt; Description of Artificial Sequence: Mm.42246.3

&lt;400&gt; 102

Leu Asp Ser Leu

1

&lt;210&gt; 103

&lt;211&gt; 11

&lt;212&gt; PRT

&lt;213&gt; Artificial Sequence

&lt;220&gt;

&lt;223&gt; Description of Artificial Sequence: Mm.22430.1

&lt;400&gt; 103

Val Leu Gln Ala Ile Leu Pro Ser Ala Pro Gln

1

5

10

&lt;210&gt; 104

&lt;211&gt; 5

&lt;212&gt; PRT

&lt;213&gt; Artificial Sequence

&lt;220&gt;

&lt;223&gt; Description of Artificial Sequence: Mm.22430.1

&lt;400&gt; 104

Leu Gln Ala Ile Leu

1

5

&lt;210&gt; 105

&lt;211&gt; 4

&lt;212&gt; PRT

&lt;213&gt; Artificial Sequence

&lt;220&gt;

&lt;223&gt; Description of Artificial Sequence: Mm.22430.1

&lt;400&gt; 105

Pro Ser Ala Pro

1

<210> 106  
<211> 14  
<212> PRT  
<213> Artificial Sequence

<220>  
<223> Description of Artificial Sequence: Hs.63758.4

<400> 106  
Lys Val Leu Gln Gly Arg Leu Pro Ala Val Ala Gln Ala Val  
1 5 10

<210> 107  
<211> 4  
<212> PRT  
<213> Artificial Sequence

<220>  
<223> Description of Artificial Sequence: Hs.63758.4

<400> 107  
Leu Pro Ala Val  
1

<210> 108  
<211> 14  
<212> PRT  
<213> Artificial Sequence

<220>  
<223> Description of Artificial Sequence: Mm.129320.2

<400> 108  
Leu Val Gln Lys Val Val Pro Met Leu Pro Arg Leu Leu Cys  
1 5 10

<210> 109  
<211> 4  
<212> PRT  
<213> Artificial Sequence

<220>  
<223> Description of Artificial Sequence: Mm.129320.2

<400> 109  
Leu Pro Arg Leu  
1

<210> 110  
<211> 4  
<212> PRT

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: Mm.129320.2

<400> 110

Pro Met Leu Pro

1

<210> 111

<211> 5

<212> PRT

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: Mm.22430.1

<400> 111

Pro Ser Ala Pro Gln

1

5

<210> 112

<211> 11

<212> PRT

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: P20155

<400> 112

Leu Pro Gly Cys Pro Arg His Phe Asn Pro Val

1

5

10

<210> 113

<211> 11

<212> PRT

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: Rn.2337.1

<400> 113

Leu Val Gly Cys Pro Arg Asp Tyr Asp Pro Val

1

5

10

<210> 114

<211> 4

<212> PRT

<213> Artificial Sequence

<220>  
 <223> Description of Artificial Sequence: Rn.2337.1  
  
 <400> 114  
 Leu Val Gly Cys  
     1  
  
 <210> 115  
 <211> 6  
 <212> PRT  
 <213> Artificial Sequence  
  
 <220>  
 <223> Description of Artificial Sequence: Hs.297775.1  
  
 <400> 115  
 Pro Gly Cys Pro Arg Gly  
     1                    5  
  
 <210> 116  
 <211> 5  
 <212> PRT  
 <213> Artificial Sequence  
  
 <220>  
 <223> Description of Artificial Sequence: Mm.1359.1  
  
 <400> 116  
 Leu Pro Gly Cys Pro  
     1                    5  
  
 <210> 117  
 <211> 6  
 <212> PRT  
 <213> Artificial Sequence  
  
 <220>  
 <223> Description of Artificial Sequence:  
       sptrembl/056177/056177  
  
  
 <400> 117  
 Val Leu Pro Ala Ala Pro  
     1                    5  
  
 <210> 118  
 <211> 9  
 <212> PRT  
 <213> Artificial Sequence

<220>  
<223> Description of Artificial Sequence:  
sptrembl/Q9W234/Q9W234

<400> 118  
Leu Ala Gly Thr Ile Pro Ala Thr Pro  
1 5

<210> 119  
<211> 4  
<212> PRT  
<213> Artificial Sequence

<220>  
<223> Description of Artificial Sequence:  
sptrembl/Q9W234/Q9W234

<400> 119  
Pro Ala Thr Pro  
1

<210> 120  
<211> 7  
<212> PRT  
<213> Artificial Sequence

<220>  
<223> Description of Artificial Sequence:  
sptrembl/Q9IYZ3/Q9IYZ3

<400> 120  
Gly Leu Leu Pro Cys Leu Pro  
1 5

<210> 121  
<211> 4  
<212> PRT  
<213> Artificial Sequence

<220>  
<223> Description of Artificial Sequence:  
sptrembl/Q9PVW5/Q9PVW5

<400> 121  
Pro Gly Ala Pro  
1

<210> 122  
<211> 10



<212> PRT  
 <213> Artificial Sequence  
  
 <220>  
 <223> Description of Artificial Sequence:  
       sptrembl/Q9PVW5/Q9PVW5  
  
 <400> 122  
 Leu Pro Gln Arg Pro Arg Gly Pro Asn Pro  
       1                      5                      10  
  
 <210> 123  
 <211> 4  
 <212> PRT  
 <213> Artificial Sequence  
  
 <220>  
 <223> Description of Artificial Sequence:  
       sptrembl/Q9PVW5/Q9PVW5  
  
 <400> 123  
 Pro Arg Gly Pro  
       1  
  
 <210> 124  
 <211> 4  
 <212> PRT  
 <213> Artificial Sequence  
  
 <220>  
 <223> Description of Artificial Sequence: Hs.303116.2  
  
 <400> 124  
 Gly Cys Pro Arg  
       1  
  
 <210> 125  
 <211> 6  
 <212> PRT  
 <213> Artificial Sequence  
  
 <220>  
 <223> Description of Artificial Sequence:  
       pdb/1DU3/1DU3-A  
  
 <400> 125  
 Gly Cys Pro Arg Gly Met  
       1                      5  
  
 <210> 126  
 <211> 4

<212> PRT  
 <213> Artificial Sequence  
  
 <220>  
 <223> Description of Artificial Sequence: pdb/1BIO/1BIO  
  
 <400> 126  
 Leu Gln His Val  
   1  
  
 <210> 127  
 <211> 4  
 <212> PRT  
 <213> Artificial Sequence  
  
 <220>  
 <223> Description of Artificial Sequence:  
       pdb/1FL7/1FL7-B  
  
 <400> 127  
 Val Pro Gly Cys  
   1  
  
 <210> 128  
 <211> 4  
 <212> PRT  
 <213> Artificial Sequence  
  
 <220>  
 <223> Description of Artificial Sequence:  
       pdb/1HR6/1HR6-A  
  
 <400> 128  
 Cys Pro Arg Gly  
   1  
  
 <210> 129  
 <211> 4  
 <212> PRT  
 <213> Artificial Sequence  
  
 <220>  
 <223> Description of Artificial Sequence: pdb/1H6/1HR6-A  
  
 <400> 129  
 Leu Lys Gly Cys  
   1  
  
 <210> 130  
 <211> 4  
 <212> PRT

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: pdb/1BFA/1BFA

<400> 130

Pro Pro Gly Pro

1

<210> 131

<211> 8

<212> PRT

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: pdb/1BFA/1BFA

<400> 131

Leu Pro Gly Cys Pro Arg Glu Val

1

5

<210> 132

<211> 4

<212> PRT

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: pdb/1BFA/1BFA

<400> 132

Cys Pro Arg Glu

1

<210> 133

<211> 17

<212> PRT

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence:  
swissnew/P01229/LSHB HUMAN

<400> 133

Met Met Arg Val Leu Gln Ala Val Leu Pro Pro Leu Pro Gln Val Val

1

5

10

15

Cys

<210> 134

<211> 4

<212> PRT

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence:  
swissnew/P01229/LSHB HUMAN

<400> 134

Met Met Arg Val  
1

<210> 135

<211> 6

<212> PRT

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence:  
swissnew/P01229/LSHB HUMAN

<400> 135

Val Leu Pro Pro Leu Pro  
1 5

<210> 136

<211> 7

<212> PRT

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence:  
swissnew/P01229/LSHB HUMAN

<400> 136

Val Leu Pro Pro Leu Pro Gln  
1 5

<210> 137

<211> 7

<212> PRT

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence:  
swissnew/P01229/LSHB HUMAN

<400> 137

Ala Val Leu Pro Pro Leu Pro  
1 5

<210> 138

<211> 8

<212> PRT  
<213> Artificial Sequence

<220>  
<223> Description of Artificial Sequence:  
swissnew/P01229/LSHB HUMAN

<400> 138  
Ala Val Leu Pro Pro Leu Pro Gln  
1 5

<210> 139  
<211> 17  
<212> PRT  
<213> Artificial Sequence

<220>  
<223> Description of Artificial Sequence:  
swissnew/P07434/CGHB PAPAN

<400> 139  
Met Met Arg Val Leu Gln Ala Val Leu Pro Pro Val Pro Gln Val Val  
1 5 10 15

Cys

<210> 140  
<211> 4  
<212> PRT  
<213> Artificial Sequence

<220>  
<223> Description of Artificial Sequence:  
swissnew/P07434/CGHB PAPAN

<400> 140  
Leu Gln Ala Gly  
1

<210> 141  
<211> 6  
<212> PRT  
<213> Artificial Sequence

<220>  
<223> Description of Artificial Sequence:  
swissnew/P07434/CGHB PAPAN

<400> 141

Val Leu Pro Pro Val Pro  
1 5

<210> 142  
<211> 7  
<212> PRT  
<213> Artificial Sequence

<220>  
<223> Description of Artificial Sequence:  
swissnew/P07434/CGHB PAPAN

<400> 142  
Val Leu Pro Pro Val Pro Gln  
1 5

<210> 143  
<211> 7  
<212> PRT  
<213> Artificial Sequence

<220>  
<223> Description of Artificial Sequence:  
swissnew/P07434/CGHB PAPAN

<400> 143  
Ala Val Leu Pro Pro Val Pro  
1 5

<210> 144  
<211> 8  
<212> PRT  
<213> Artificial Sequence

<220>  
<223> Description of Artificial Sequence:  
swissnew/P07434/CGHB PAPAN

<400> 144  
Ala Val Leu Pro Pro Val Pro Gln  
1 5

<210> 145  
<211> 4  
<212> PRT  
<213> Artificial Sequence

<220>  
<223> Description of Artificial Sequence:  
swissnew/Q28376/TSHB HORSE

<400> 145  
Met Thr Arg Asp  
1

<210> 146  
<211> 4  
<212> PRT  
<213> Artificial Sequence

<220>  
<223> Description of Artificial Sequence:  
swissnew/Q28376/TS HB HORSE

<400> 146  
Gln Asp Val Cys  
1

<210> 147  
<211> 4  
<212> PRT  
<213> Artificial Sequence

<220>  
<223> Description of Artificial Sequence:  
swissnew/Q28376/TS HB HORSE

<400> 147  
Ile Pro Gly Cys  
1

<210> 148  
<211> 5  
<212> PRT  
<213> Artificial Sequence

<220>  
<223> Description of Artificial Sequence:  
sptrembl/Q9Z284/Q9Z284

<400> 148  
Pro Ala Leu Pro Ser  
1 5

<210> 149  
<211> 6  
<212> PRT  
<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence:  
sptrembl/Q9UCG8/Q9UCG8

<400> 149  
Leu Pro Gly Gly Pro Arg  
1 5

<210> 150  
<211> 4  
<212> PRT  
<213> Artificial Sequence

<220>  
<223> Description of Artificial Sequence:  
sptrembl/Q9UCG8/Q9UCG8

<400> 150  
Leu Pro Gly Gly  
1

<210> 151  
<211> 4  
<212> PRT  
<213> Artificial Sequence

<220>  
<223> Description of Artificial Sequence:  
sptrembl/Q9UCG8/Q9UCG8

<400> 151  
Gly Gly Pro Arg  
1

<210> 152  
<211> 4  
<212> PRT  
<213> Artificial Sequence

<220>  
<223> Description of Artificial Sequence: XP\_028754

<400> 152  
Leu Gln Arg Gly  
1

<210> 153  
<211> 5  
<212> PRT  
<213> Artificial Sequence



<220>  
<223> Description of Artificial Sequence: XP\_028754

<400> 153  
Leu Gln Arg Gly Val  
1 5

<210> 154  
<211> 4  
<212> PRT  
<213> Artificial Sequence

<220>  
<223> Description of Artificial Sequence: XP\_028754

<400> 154  
Leu Gly Gln Leu  
1

<210> 155  
<211> 13  
<212> PRT  
<213> Artificial Sequence

<220>  
<223> Description of Artificial Sequence: SignalP (CBS)

<400> 155  
Met Thr Arg Val Leu Gln Gly Val Leu Pro Ala Leu Pro  
1 5 10

<210> 156  
<211> 9  
<212> PRT  
<213> Artificial Sequence

<220>  
<223> Description of Artificial Sequence: HLA molecule  
type I (A\_0201)

<400> 156  
Val Leu Gln Gly Val Leu Pro Ala Leu  
1 5

<210> 157  
<211> 9  
<212> PRT  
<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: HLA molecule  
type I (A\_0201)

<400> 157

Gly Val Leu Pro Ala Leu Pro Gln Val  
1 5

<210> 158

<211> 9

<212> PRT

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: HLA molecule  
type I (A\_0201)

<400> 158

Val Leu Pro Ala Leu Pro Gln Val Val  
1 5

<210> 159

<211> 9

<212> PRT

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: HLA molecule  
type I (A\_0201)

<400> 159

Arg Leu Pro Gly Cys Pro Arg Gly Val  
1 5

<210> 160

<211> 9

<212> PRT

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: HLA molecule  
type I (A\_0201)

<400> 160

Thr Met Thr Arg Val Leu Gln Gly Val  
1 5

<210> 161

<211> 15

<212> PRT  
 <213> Artificial Sequence  
  
 <220>  
 <223> Description of Artificial Sequence: MHC II (H2-Ak  
 15-mers)  
  
 <400> 161  
 Cys Pro Thr Met Thr Arg Val Leu Gln Gly Val Leu Pro Ala Leu  
 1 5 10 15  
  
 <210> 162  
 <211> 15  
 <212> PRT  
 <213> Artificial Sequence  
  
 <220>  
 <223> Description of Artificial Sequence: MHC II (H2-Ak  
 15-mers)  
  
 <400> 162  
 Pro Gly Cys Pro Arg Gly Val Asn Pro Val Val Ser Tyr Ala Val  
 1 5 10 15  
  
 <210> 163  
 <211> 15  
 <212> PRT  
 <213> Artificial Sequence  
  
 <220>  
 <223> Description of Artificial Sequence: HLA-DRB1\*0101  
 15-mers  
  
 <400> 163  
 Pro Arg Gly Val Asn Pro Val Val Ser Tyr Ala Val Ala Leu Ser  
 1 5 10 15  
  
 <210> 164  
 <211> 15  
 <212> PRT  
 <213> Artificial Sequence  
  
 <220>  
 <223> Description of Artificial Sequence: HLA-DRB1\*0101  
 15-mers  
  
 <400> 164  
 Thr Arg Val Leu Gln Gly Val Leu Pro Ala Leu Pro Gln Val Val  
 1 5 10 15

<210> 165  
<211> 15  
<212> PRT  
<213> Artificial Sequence

<220>  
<223> Description of Artificial Sequence: HLA-DRB1\*0101  
15-mers

<400> 165  
Leu Gln Gly Val Leu Pro Ala Leu Pro Gln Val Val Cys Asn Tyr  
1 5 10 15

<210> 166  
<211> 15  
<212> PRT  
<213> Artificial Sequence

<220>  
<223> Description of Artificial Sequence: HLA-DRB1\*0301  
(DR17) 15-mers

<400> 166  
Met Thr Arg Val Leu Gln Gly Val Leu Pro Ala Leu Pro Gln Val  
1 5 10 15

<210> 167  
<211> 15  
<212> PRT  
<213> Artificial Sequence

<220>  
<223> Description of Artificial Sequence: HLA-DRB1\*0301  
(DR17) 15-mers

<400> 167  
Ser Ile Arg Leu Pro Gly Cys Pro Arg Gly Val Asn Pro Val Val  
1 5 10 15

<210> 168  
<211> 7  
<212> PRT  
<213> Artificial Sequence

<220>  
<223> Description of Artificial Sequence: NMPF-56  
peptide

<400> 168

Val Ala Pro Ala Leu Pro Gln  
1 5

<210> 169  
<211> 35  
<212> PRT  
<213> Artificial Sequence

<220>  
<223> Description of Artificial Sequence: NMPF-62  
peptide

<400> 169  
Val Val Cys Asn Tyr Arg Asp Val Arg Phe Glu Ser Ile Arg Leu Pro  
1 5 10 15

Gly Cys Pro Arg Gly Val Asn Pro Val Val Ser Tyr Ala Val Ala Leu  
20 25 30

Ser Cys Gln  
35

<210> 170  
<211> 7  
<212> PRT  
<213> Artificial Sequence

<220>  
<223> Description of Artificial Sequence: NMPF-67  
peptide

<400> 170  
Cys Pro Arg Gly Val Asn Pro  
1 5

<210> 171  
<211> 14  
<212> PRT  
<213> Artificial Sequence

<220>  
<223> Description of Artificial Sequence: NMPF-70  
peptide

<400> 171  
Met Thr Arg Val Leu Gln Gly Val Leu Pro Ala Leu Pro Gln  
1 5 10

<210> 172

<211> 18  
<212> PRT  
<213> Artificial Sequence

<220>  
<223> Description of Artificial Sequence: NMPF-75  
peptide

<400> 172  
Ser Lys Ala Pro Pro Pro Ser Leu Pro Ser Pro Ser Arg Leu Pro Gly  
1 5 10 15

Pro Cys

<210> 173  
<211> 7  
<212> PRT  
<213> Artificial Sequence

<220>  
<223> Description of Artificial Sequence: NMPF-56  
peptide

<400> 173  
Val Ala Pro Ala Leu Pro Gln  
1 5

<210> 174  
<211> 17  
<212> PRT  
<213> Artificial Sequence

<220>  
<223> Description of Artificial Sequence: NMPF-71  
peptide

<400> 174  
Met Thr Arg Val Leu Pro Gly Val Leu Pro Ala Leu Pro Gln Val Val  
1 5 10 15

Cys

<210> 175  
<211> 10  
<212> PRT  
<213> Artificial Sequence

<220>  
<223> Description of Artificial Sequence: NMPF peptide

<400> 175  
Cys Arg Gly Val Asn Pro Val Val Ser  
1 5